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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/616,760	07/09/2003	Harry V. Gelboin	015280-389200US	2288

20350 7590 01/17/2007

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EXAMINER	
SKELDING, ZACHARY S	
ART UNIT	PAPER NUMBER
1644	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/17/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/616,760	GELBOIN ET AL.	
	Examiner	Art Unit	
	Zachary Skelding	1644	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 October 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *13-16,18-26 and 74* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *13-16,18-26 and 74* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. Applicant's amendment to the claims filed October 24, 2006 has been entered.

   Claims 13-16, 18-20 and 22-26 have been amended.

   Claims 1-12, 17 and 27-73 have been canceled.

   Claim 74 has been added.

   Claims 13-16, 18-26 and 74 are pending.

2. ***Claims 13-16, 18-26 and 74 are under consideration*** as they read on a monoclonal antibody that competes with MAb 763-15-5 for specific binding to p450 2C9 allelic variants 2C9*1, 2C9*2, and 2C9*3, **AND** that specifically inhibits 2C9*1, 2C9*2, and 2C9*3 catalyzed metabolism of phenanthrene.

3. The rejections of record can be found in the previous Office Action, mailed July 24, 2006.

   This Office Action is in response to Applicant's amendment filed October 24, 2006.

   The text of those sections of Title 35 U.S.C. not included in this Action can be found in a prior action.

4. The previous objections of record to the instant specification have been withdrawn in view of Applicant's amendment.

   The previous rejections of record under 35 U.S.C. § 112, 2nd paragraph, have been withdrawn in view of Applicant's amendment.

   The previous rejection of record under 35 U.S.C. § 102 has been withdrawn in view of Applicant's amendment.

5. The previous rejection of record under 35 U.S.C. § 103 has been withdrawn in view of Applicant's amendment.

   More particularly, by limiting claim 13, and dependent claims thereof, to "a monoclonal antibody…that ***specifically*** inhibits ***2C9*1, 2C9*2 and 2C9*3*** metabolism" **applicant has obviated the previous rejection under 35 U.S.C. § 103(a)** because the cited art teaches an anti-2C9 antibody that specifically inhibits ***p450 2C-catalyzed*** metabolism, e.g., 2C9 and 2C19 metabolism, ***not*** an antibody that "***specifically*** inhibits ***2C9*1, 2C9*2 and 2C9*3*** metabolism".

Accordingly, by narrowing the scope of claim 13 applicant has obviated the previous rejection under 35 U.S.C. § 103(a).

6. ***New Grounds of Rejection, necessitated by applicant's amendment to the claims are set forth below.***

7. **Claim 13, and dependent claims thereof, are rejected under 35 U.S.C. § 112, 1st paragraph**, as containing subject matter which was not described in the specification in such a way as to reasonable convey to one skilled in the art that the inventor(s), at the time of the application was filed, had ***possession*** of the claimed invention.

This is a New Matter Rejection necessitated by applicant's amendment to the claims.

Claim 13 has been amended to ***replace*** "***specifically*** inhibits ***2C***-catalyzed metabolism" with "***specifically*** inhibits ***2C9*1, 2C9*2 and 2C9*3*** catalyzed metabolism".

Applicant does not appear to point to support in the instant specification for this amendment.

Moreover, upon review by the Examiner, the instant specification appears to lack a sufficient written description for this limitation. More particularly, the instant specification does not provide blazemarks nor direction for "a monoclonal antibody that competes with monoclonal antibody MAb 763-15-5 for specific binding to...2C9*1, 2C9*2 and 2C9*3 and that ***specifically inhibits 2C9*1, 2C9*2 and 2C9*3 catalyzed metabolism*** of phenanthrene...". This limitation, which was not clearly disclosed in the specification as-filed, changes the scope of the instant disclosure as-filed. Such limitations recited in the present claims, which did not appear in the specification, as filed, introduce new concepts and violate the description requirement of the first paragraph of 35 U.S.C. 112.

The instant specification discloses at page 5, 2nd paragraph, that "The invention further provides...agents that compete with...MAb 763-15-5 for specific binding to...2C9*1,2C9*2, and 2C9*3, and that specifically inhibits ***2C-catalyzed*** metabolism of phenanthrene..." and at page 13, 2nd paragraph, that "some agents of the invention ***inhibit metabolic capacity of isolated pure cytochrome P450 2C family members***...."

However, applicant's claimed species, i.e., "a monoclonal antibody that competes with monoclonal antibody MAb 763-15-5 for specific binding to...2C9*1, 2C9*2 and 2C9*3 and that ***specifically inhibits 2C9*1, 2C9*2 and 2C9*3 catalyzed metabolism*** of phenanthrene...," is ***not*** sufficiently supported by the specification as-filed.

A generic or a sub-generic disclosure cannot support a species unless the species is specifically described.

It cannot be said that a subgenus is necessarily described by a genus encompassing it and a species upon which it reads. See In re Smith 173 USPQ 679, 683 (CCPA 1972) and MPEP 2163.05.

Thus, claim 13, and dependent claims thereof, recite limitations which did not appear in the specification as filed, introduce new concepts and violate the description requirement of the first paragraph of 35 U.S.C. 112.

Applicant is required to cancel the new matter in the response to this Office action.

Alternatively, applicant is invited to provide sufficient written support for the limitations indicated above.
See MPEP 714.02 and 2163.06

8. **Claim 13, and dependent claims thereof, are rejected under 35 U.S.C. 112, 2nd paragraph,** as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

These are New Grounds of Rejection necessitated by applicant's amendment to the claims.

A. The antibody of claim 13 that "*specifically* inhibits...2C18": Claim 26

Claim 26 recites the antibody of claim 13 that "***specifically*** inhibits...2C18". However, the antibody of base claim 13, "***specifically*** inhibits 2C9*1, 2C9*2, and 2C9*3". An antibody that "***specifically*** inhibits 2C9*1, 2C9*2, and 2C9*3" should ***not*** inhibit enzymes other than 2C9*1, 2C9*2, and 2C9*3.

Therefore, claim 26 is indefinite because it is unclear how the claim from which it depends encompasses ***both*** antibodies that "***specifically*** **inhibit 2C9*1, 2C9*2, and 2C9*3**" **AND** antibodies that "***specifically*** **inhibit...2C18**".

B. MAb-292-2-3 specifically binds 2C9*2 but does *not* bind 2C9*1 or 2C9*2: Claim 16

Claim 16 recites the monoclonal antibody of claim 13 that is MAb 292-2-3 that ***specifically binds 2C9*2***. However, the antibody of base claim 13 "competes with...a MAb 763-15-5 for specific binding to the human cytochrome p450 2C9 allelic variants 2C9*1, 2C9*2 and 2C9*3..."

As stated in the previous Office Action, claim 13, given its broadest reasonable interpretation consistent with the specification, will be considered as reading on any monoclonal antibody that competes with monoclonal antibody MAb 763-15-5 for its (MAb 763-15-5's) specific binding to ***all three*** allelic variants ***2C9*1, 2C9*2 and 2C9*3***.

C. "specifically inhibits 2C9*1, 2C9*2, and 2C9*3 catalyzed metabolism...by at least 50%": Claim 13 and dependent claims thereof

Claim 13, and dependent claims thereof, are indefinite in the recitation of "a monoclonal antibody that...specifically inhibits 2C9*1, 2C9*2, and 2C9*3 catalyzed metabolism of phenanthrene by at least 50%" because the metes and bounds of this phrase are unclear.

On one hand it could be interpreted as meaning the ***combined*** activities of 2C9*1, 2C9*2, and 2C9*3 are inhibited by at least 50%, e.g., 2C9*1 and 2C9*2 phenanthrene metabolism are inhibited 100%, but 2C9*3 is not inhibited at all, such that the ***combined*** inhibition of 2C9*1, 2C9*2, and 2C9*3 catalyzed metabolism of phenanthrene is (100 + 100 + 0)/3 = 66%.

Alternatively, claim 13 could be interpreted as meaning that the ***individual*** activities of ***each*** allele is being inhibited by at least 50%, e.g., the 2C9*1 catalyzed metabolism of phenanthrene is inhibited by at least 50%, the 2C9*2 catalyzed metabolism of phenanthrene is inhibited by at least 50%, and the 2C9*3 catalyzed metabolism of phenanthrene is inhibited by at least 50%.

Applicant is invited to amend the instant claims to more clearly indicate their metes and bounds.

D. "MAb 763-15-5 (ATCC PTA-1079)" or "MAb 292-2-3 (ATCC HB-12645)": Claim 13 and dependent claims thereof.

Claim 13, and dependent claims thereof, are indefinite in the recitation of "MAb 763-15-5 (ATCC PTA-1079)" or "MAb 292-2-3 (ATCC HB-12645)" because "MAb 763-15-5/MAb 292-2-3" are antibodies while "(ATCC PTA-1079)/ (ATCC HB-12645)" are hybridoma cell lines that produce antibodies. The metes and bounds of the designations "MAb 763-15-5 (ATCC PTA-1079)" and "MAb 292-2-3 (ATCC HB-12645)" are unclear because the claim could read on a monoclonal antibody that competes with ***the antibody, per se,*** or a monoclonal antibody that competes with ***the hybridoma cell that produces said antibody***, or ***both***.

Applicant is invited to amend the instant claims to recite, e.g., "monoclonal antibody MAb 763-15-5 which is produced by the hybridoma cell line deposited as ATCC PTA-1079" as disclosed by the instant specification at page 12, 2nd paragraph.

E. Applicant is reminded that any amendment must point to a basis in the specification so as not to add new matter. See MPEP 714.02 and 2163.06.

9. **Claim 23 stands rejected under 35 U.S.C. 112, 1st paragraph,** as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention, essentially for the reasons of record set forth in the previous Office Action.

Applicant argues that claim 23 is enabled because the instant specification describes antibody production, sequence identity analysis, sequence analog screening, and competition assays.

Applicant's argument is not found convincing, essentially for the reasons of record.

As stated in the prior Office Action, the scope of the claimed monoclonal antibody that is 80% identical to MAb 763-15-5 is not commensurate with the enablement provided by the disclosure with regard to the extremely large number of amino acid sequences broadly encompassed by the claimed invention.

Moreover, Applicant also argues that the instant specification describes "an antibody that binds to the human cytochrome p450 2C9 allelic variants 2C9*1, 2C9*2 and 2C9*3 that are also bound by MAb 763-15-5," **such as MAbs 592-2-5 and 5-7-5.**

Neither applicant nor the instant specification provide sufficient direction, guidance or objective evidence to indicate that the other antibodies disclosed in the instant specification that bind the human cytochrome p450 2C9 allelic variants in an ELISA assay and inhibit 2C9, **such as MAbs 592-2-5 and 5-7-5**, also ***compete*** with monoclonal antibody MAb 763-15-5 for specific binding (as measured by an ELISA assay) to the human cytochrome p450 2C9 allelic variants **and** have variable light and heavy chains ***at least 80% identical*** to the variable regions of MAb 763-15-5.

Reasonable correlation must exist between the scope of the claims and scope of enablement set forth. In view of the quantity of experimentation necessary, the limited working examples, the unpredictability of the art, the lack of sufficient guidance in the specification, and the breadth of the claims, it would take undue trials and errors to practice the claimed invention.

Thus, claim 23 is not enabled, essentially for the reasons of record.

10. **Claim 13, and dependent claims thereof, are rejected under 35 U.S.C. 112, 1st paragraph,** as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention, essentially for the reasons of record set forth in the previous Office Action.

This is a New Grounds of Rejection necessitated by applicant's amendment to the claims.

It is noted that, claim 13, given its broadest reasonable interpretation consistent with the specification, reads on **(1)** a monoclonal antibody that competes with monoclonal antibody MAb 763-15-5 for its (MAb 763-15-5's) specific binding to 2C9*1, 2C9*2 and 2C9*3 **AND (2)** wherein said monoclonal antibody ***specifically inhibits 2C9*1, 2C9*2 and 2C9*3 catalyzed metabolism*** of phenanthrene by at least 50%.

However, MAb 763-15-5 does ***not*** specifically inhibit 2C9*1, 2C9*2 and 2C9*3 catalyzed metabolism of phenanthrene. Rather, it inhibits ***2C9 and 2C18*** catalyzed metabolism phenanthrene (see instant specification paragraph bridging pages 10 and 11).

Thus, in order to identify the claimed antibody competitor, the skilled artisan would have to screen for an antibody that ***not only*** (1) competes for MAb 763-15-5 specific binding to 2C9*1, 2C9*2 and 2C9*3, ***but also*** (2) ***specifically inhibits 2C9*1, 2C9*2 and 2C9*3 catalyzed metabolism*** of phenanthrene by at least 50%, ***without*** affecting the metabolic activity of ***any*** of the other 2C- p450 enzymes, such as 2C18 or 2C8 or 2C19, which are also able to metabolize phenanthrene.

The instant specification discloses an experiment that can be used to determine if two anti-2C antibodies compete with one another for binding to the same 2C epitope (see page 12, 2nd paragraph). The instant specification also discloses an experiment that can be used to determine if a particular antibody inhibits phenanthrene metabolism by a 2C family enzyme such as 2C9, 2C18 or 2C8 or 2C19.

However, the instant specification does ***not*** provide a means to ***screen the vast number of antibodies*** necessary to identify an antibody that meets the limitations of claim 13, or the claims that depend therefrom, because ***the vast majority of antibodies*** that meet the first limitation of claim 13, i.e., (1) competes for MAb 763-15-5 specific binding to 2C9*1, 2C9*2 and 2C9*3, will ***not also*** (2) ***specifically inhibit 2C9*1, 2C9*2 and 2C9*3 catalyzed metabolism*** of phenanthrene by at least 50%.

Rather, the vast majority of antibodies that compete with MAb 763-15-5 for specific binding to 2C9*1, 2C9*2 and 2C9*3 will, like MAb 763-15-5, affect the phenanthrene metabolic activity of 2C18, ***since the vast majority of antibodies that compete with MAb 763-15-5 for specific binding would be expected to bind the same, or at least an epitope that overlaps the epitope bound by 763-15-5, and these antibodies would, in turn, be expected to inhibit 2C18 catalyzed metabolism phenanthrene***. Accordingly, undue experimentation would be required to produce the claimed invention commensurate with the scope of the claims from the written disclosure alone.

Moreover, it may not even be possible to identify an antibody that competes with 763-15-5 for specific binding to 2C9*1, 2C9*2 and 2C9*3, but that does ***not*** affect the phenanthrene metabolic activity of 2C18 ***since the 2C9 and 2C18 enzymes are 81% identical across their >400 amino acid length.***

Accordingly, undue experimentation would be required to produce the claimed invention commensurate with the scope of the claims from the written disclosure alone. Reasonable correlation must exist between the scope of the claims and scope of enablement set forth. In view of the quantity of experimentation necessary, the limited working examples, the unpredictability of the art, the lack of sufficient guidance in the specification, and the breadth of the claims, it would take undue trials and errors to practice the claimed invention.

Thus, the instant claims are not enabled.

11. **Claim 23 stands rejected under 35 U.S.C. 112, first paragraph,** as containing subject matter which was not described in the specification in such a way as to reasonable convey to one skilled in the art that the inventor(s), at the time of the application was filed, had ***possession*** of the claimed invention.

Applicant argues that because the instant specification discloses an assay for determining if another antibody competes for antigen binding with MAb 763-15-5 the skilled artisan would recognize that applicant was in possession of the claimed genus of antibodies.

Applicant's argument is not found convincing, essentially for the reasons of record.

It does not appear based upon the disclosure of ***MAb 763-15-5*** alone that Applicant was in possession of the necessary common attributes or features of the elements possessed by the members of the genus in view of the extensive variation permitted within the claimed genus.

Moreover, neither applicant nor the instant specification provide sufficient direction, guidance or objective evidence to indicate that the other antibodies disclosed in the instant specification that bind the human cytochrome p450 2C9 allelic variants in an ELISA assay and inhibit 2C9, such as MAbs 592-2-5 and 5-7-5, also ***compete*** with monoclonal antibody MAb 763-15-5 for specific binding (as measured by an ELISA assay) to the human cytochrome p450 2C9 allelic variants **and** have variable light and heavy chains ***at least 80% identical*** to the variable regions of MAb 763-15-5.

Thus, applicant has not demonstrated possession of the claimed genus of competitive antibodies.

The written description requirement for a claimed genus may be satisfied through sufficient description of a representative number of species by actual reduction to practice, reduction to drawings, or by disclosure of relevant, identifying characteristics, i.e., structure or other physical and/or chemical properties, by functional characteristics coupled with a known or disclosed correlation between function and structure, or by a combination of such identifying characteristics, sufficient to show the applicant was in possession of the claimed genus. (See Federal Register, Vol. 66, No. 4, pages 1099-1111, Friday January 5, 2001, especially page 1106 3rd column). A "representative number of species" means that the species which are adequately described are representative of the entire genus. Thus, when there is substantial variation within the genus, one must describe a sufficient variety of species to reflect the variation within the genus. MPEP 2163 II.A.3a.ii.

"Adequate written description requires a precise definition, such as by structure, formula, chemical name or physical properties, not a mere wish or plan for obtaining the claimed chemical invention." Regents of the University of California v. Eli Lilly and Co. 43 USPQ2d 1398 (Fed. Cir. 1997).

The disclosure must allow one skilled in the art to visualize or recognize the identity of the subject matter of the claim. Id. 43 USPQ2d at 1406.

Applicant is directed to the Guidelines for the Examination of Patent Applications Under the 35 U.S.C. 112, ¶ 1 "Written Description" Requirement, Federal Register, Vol. 66, No. 4, pages 1099-1111, Friday January 5, 2001.

Applicant is reminded that Vas-Cath makes clear that the written description provision of 35 USC 112 is severable from its enablement provision (see page 1115).

12. **Claim 13, and dependent claims thereof, are rejected under 35 U.S.C. 112, first paragraph,** as containing subject matter which was not described in the specification in such a way as to reasonable convey to one skilled in the art that the inventor(s), at the time of the application was filed, had ***possession*** of the claimed invention.

This is a New Grounds of Rejection necessitated by applicant's amendment to the claims.

The instant specification does not appear to disclose any species of monoclonal antibody that competes with MAb 763-15-5 for its specific binding to 2C9*1, 2C9*2 and 2C9*3, ***AND*** which ***specifically inhibits 2C9*1, 2C9*2 and 2C9*3 catalyzed metabolism of phenanthrene*** by at least 50%.

The instant specification does not provide sufficient direction or guidance to demonstrate possession of the necessary common attributes or features of the elements possessed by the members of the claimed genus of antibodies.

The written description requirement for a claimed genus may be satisfied through sufficient description of a representative number of species by actual reduction to practice, reduction to drawings, or by disclosure of relevant, identifying characteristics, i.e., structure or other physical and/or chemical properties, by functional characteristics coupled with a known or disclosed correlation between function and structure, or by a combination of such identifying characteristics, sufficient to show the applicant was in possession of the claimed genus. (See Federal Register, Vol. 66, No. 4, pages 1099-1111, Friday January 5, 2001, especially page 1106 3rd column). A "representative number of species" means that the species which are adequately described are representative of the entire genus. Thus, when there is substantial variation within the genus, one must describe a sufficient variety of species to reflect the variation within the genus. MPEP 2163 II.A.3a.ii.

"Adequate written description requires a precise definition, such as by structure, formula, chemical name or physical properties, not a mere wish or plan for obtaining the claimed chemical invention." Regents of the University of California v. Eli Lilly and Co. 43 USPQ2d 1398 (Fed. Cir. 1997).

The disclosure must allow one skilled in the art to visualize or recognize the identity of the subject matter of the claim. Id. 43 USPQ2d at 1406.

Applicant is directed to the Guidelines for the Examination of Patent Applications Under the 35 U.S.C. 112, ¶ 1 "Written Description" Requirement, Federal Register, Vol. 66, No. 4, pages 1099-1111, Friday January 5, 2001.

Applicant is reminded that Vas-Cath makes clear that the written description provision of 35 USC 112 is severable from its enablement provision (see page 1115).

13. No claim is allowed.

14. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Zachary Skelding whose telephone number is 571-272-9033. The examiner can normally be reached on Monday - Friday 8:00 a.m. - 5:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Chan can be reached on 571-272-0841. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Zachary Skelding, Ph.D.
Patent Examiner
January 4, 2007

PHILLIP GAMBEL, PH.D
PRIMARY EXAMINER
TC-1600
11/5/07